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(54) Keyboard mask

(57) A mask of an elastic and resilient material is used to cover the keyboard of a computer with the aim to change the marks on the keyboard to another language or to another program. The mask is substantially rectangular and comprises several rows of raised inverted pockets (1), each forming an envelope for the top and the upper part of the sides of one key each. Grooves (2), (3), are provided between each two adjoining keys and between the rows of keys, permitting the depression of any pocket together with the enveloped key, without disturbance to the remaining keys. The majority of the tops of the pockets are inscribed with a sign or letter different from that on the underlying key, while some pockets may be inscribed with an identical sign or letter.

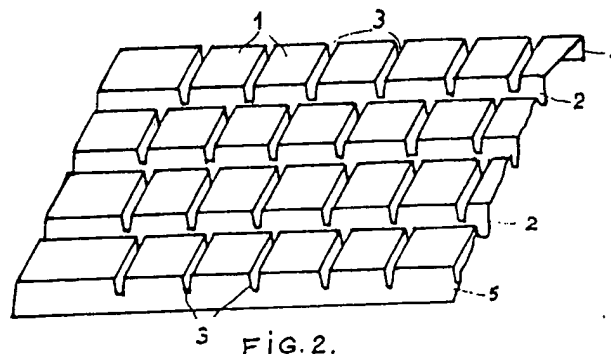


FIG. 2.

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SPECIFICATION

Improvements regarding keyboards of computers and other office machines

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Background of the invention

The invention relates to keyboards of office machinery, more particularly the keyboards of typewriters, computers, word processors, automation and the like. It relates more particularly to predetermined change of the marks or symbols on individual keys in accordance with various functions assigned to a single key of a keyboard depending on the program to which the machine has been

15 set.

The keyboards of office machines are generally provided with keys each of which carries one or, in special cases, up to three different marks or symbols which denote the function to be carried out by the individual machine, as soon as the key is pressed. As an example, a typewriter provided with several ball heads, each engraved with a different alphabet such as English, Hebrew, Arabic, Russian, Greek etc., will usually have one type of keyboard only, and the typist writing in another language than that denoted by the keyboard will have to use an auxiliary table until he or she is able to touch-type the specific language. The same problem arises with a word processor usually provided with a keyboard wherein the keys carry the English alphabet, in addition to the numbers and most of the punctuation marks, which evidently becomes useless when writing in another language is required.

As another example, a computer which is generally provided with a keyboard containing the alphabet in the order used on a typewriter, in addition to various peripheral keys, is usually assigned a certain program, each key representing a predetermined task or function. However, as soon as the computer is assigned a different application i.e. is differently programmed, the keyboard becomes, to a great part, meaningless, and the operator will have to assign a different meaning to a portion of - or to all - keys, which is an especially difficult task for a novice, but also for an experienced operator.

As mentioned before, some office machines and computers are provided with two or three marks or symbols on each key, but here again this may lead to mistakes and errors, besides of the possible lack of lucidity.

Changing the keys of a keyboard in respect of individual programs is a very costly and intricate task, besides of the fact that the keys have to be changed to a distinct order requiring the assistance of a highly skilled person.

For these reasons it is the main object of the present invention to provide means for instantaneous change the marks on all, or a portion of, the keys of a keyboard of an office machine.

It is a further object to provide these means in a way permitting an unskilled person to perform this change in a minimum of time.

It is still another object to provide means that do

not interfere with the normal operation of the keys, and it is a final object to provide these means at low cost to the user.

70 *Summary of the invention*

The means for changing the marks or symbols on at least a portion of the keys on a keyboard of an office machine consists of a covering for at least a portion of the keyboard by a mask of an elastic and resilient sheet material comprising a plurality of raised, inverted pockets arranged in parallel rows with longitudinal grooves provided between parallel rows of pockets and short, transverse grooves provided between each two adjoining pockets in a row. Each pocket forms an envelope for the top and the sides of one key, the thickness and quality of the sheet material permitting the description of any individual pocket and key without influencing any of the adjoining or surrounding pockets or keys. The pockets may be either transparent or opaque, and at least a portion of the pockets may be inscribed with a mark or symbol different from the key it covers. The pockets covering keys which should remain unchanged, may be left transparent or may be inscribed with a mark identical with the original mark on the key.

The mask will generally cover the main portion of the keyboard with the exception of the peripheral keys, but in the event that only a small portion of the key marks are to be changed, the mask may cover only that part of the keyboard containing the keys in question.

In the case of a transparent mask the marks are preferably printed on the underside of the pocket so as not to be worn rapidly.

The mask is preferably manufactured by vacuum forming of a plastic material such as polyvinyl chloride (PVC), and printing of the marks may be done before or after forming of the pockets.

There may be a mask made of a completely opaque material for the teaching of touch-typing, or a portion of the pockets may be opaque and another portion transparent.

It is also proposed to cover the keys which are not to be depressed by a pocket of a hard, not elastic material.

For the purpose of keeping the mask in firm position the portions of the mask adjoining the uppermost and lowermost row of keys respectively may be in the form of longitudinal skirts to be tucked into the longitudinal spaces close to the top and bottom row of keys.

Short description of the drawing

Figure 1 illustrates a top view of a keyboard mask with the marks on the pockets omitted,

Figure 2 is a perspective view of a portion of a keyboard mask, and

Figure 3 is a section along the line A-A of Figure 1.

Description of the preferred embodiment

Referring to the drawing, a keyboard mask is of oblong, preferably rectangular, shape in accordance with the dimensions of the keyboard to be

covered, and consists of a flexible and resilient, thin sheet material. A preferred material is soft PVC-film of a thickness of 0.28 mm, 84 Shore A hardness and of a specific gravity of 1.4 g/cm³. It is obvious that other material of similar properties may be chosen, but the aforementioned material has proved itself satisfactory in regard of flexibility, resilience and durability.

The mask illustrated in the drawing comprises four parallel rows of inverted, rectangular pockets 1, each pocket designed to cover a specific key of a keyboard; longitudinal grooves 2 separate the rows of pockets, while short transverse grooves 3 separate each two pockets 1 from each other. Each pocket consists of a top 11, two longitudinal side walls 12 and two transverse side walls 13, the side walls slightly diverging in downward direction. The two longitudinal edges of the mask are shaped to form a rear skirt 4 and a front skirt 5 which cover the longitudinal edges of the upper and lower row of keys, thus holding the mask in firm position on the keyboard. Similar skirts are provided along the transverse edges of the mask, with a view to stabilize it and to likewise hold it in its proper position.

It can be seen that all pockets, except those along the transverse edges, are of the same size, and that the outer pockets are longer, which corresponds to the usual arrangement of keys on a keyboard. However, it will be understood that the mask illustrated in the drawing has been designed for a specific keyboard of a computer, typewriter and the like, and that for each size and arrangement of keys on a keyboard a special mask is to be fabricated. On the other hand, since a large number of typewriters and computers are provided with keyboards of similar dimensions, with the exception of the peripheral keys, a standard size mask can be provided, wherein only the pockets serving to cover the peripheral keys are of greater length and are not interrupted by transverse grooves, each such pocket being designed to cover more than one of the peripheral keys. Of course, the mask may also be made shorter, so as to cover the standard keyboard without the peripheral keys. The uses and advantages of the keyboard mask are various:- a completely opaque mask will be of great assistance for pupils learning touch-typing. It is proposed to add guide rails in order to direct the fingers to the correct keys, whereby typing speed and accuracy can be achieved in much less time than hitherto.

The keyboard mask is very useful in customizing keyboards of computers to specific applications such as work processing in various languages and alphabets.

A specific application is in respect of games played with the aid of a computer, whereby a specific mask will be provided with every piece of software.

The keyboard mask may also be usefully employed for converting a typewriter or computer keyboard for the use of a blind person by providing the tops of the pockets with the raised dots of the Braille code.

And finally, it is an important accessory for com-

puter programming, making the life of the operator much easier than without the use of the various masks, since every new function for which a key is designed is clearly marked on the pocket covering the specific key.

It will be understood that the foregoing description refers to only one embodiment of the invention, and that various modifications and alterations may be carried out in respect of the keyboard mask by a person skilled in the art, within the scope of the appended Claims.

It is, for instance, proposed to make the tops of the pockets stiff by making them of a harder or thicker material than its side walls without thereby impairing the elasticity of each pocket.

As an alternative, the longitudinal grooves may be fabricated separately from a more rigid material and the pockets be attached thereto by gluing or heat welding.

The front and rear skirt (4, 5) which are shown in the drawing to be of relatively small width, may be made much wider so as to permit their insertion underneath the keyboard body with the object of holding the mask in fixed position. The skirts may extend over the entire length of the keyboard mask or only along the central portion, while being omitted in the areas occupied by the peripheral keys.

CLAIMS

1. A method of changing the marks or symbols on at least a portion of the keys of a keyboard of a computer, a typewriter or other office machinery consisting of covering at least a portion of said keyboard with a mask of an elastic and resilient sheet material, said mask comprising: a plurality of raised, inverted pockets each said pocket forming an envelope for the top and for at least the upper portion of the sides of one key, and at least a portion of said pockets having the portion covering the top of the appropriate key inscribed with a mark or symbol different from the mark or symbol inscribed on the top of said key; and grooves provided between each two adjoining inverted pockets; said pockets and said grooves being formed in a manner permitting the depression of any pocket together with the appropriate key without causing the depression of any other key on said keyboard.

2. The keyboard mask of Claim 1, wherein each said pocket designed to cover a rectangular key comprises a top surface covering the top of said key and four side walls slightly diverging in downward direction.

3. The mask of Claim 1 of substantially rectangular configuration.

4. The mask of Claim 3 comprising said pockets arranged in parallel longitudinal rows with adjoining rows separated by longitudinal grooves extending along the entire length of said rectangular mask.

5. The mask of Claim 4 comprising transverse grooves separating adjoining pockets in each row.

6. The mask of Claim 2, wherein said pockets are provided with a stiff top surface and with resilient and flexible side walls.

7. The mask of Claim 3, comprising downward extending skirts along its longitudinal edges.
8. The mask of Claim 3, comprising downward extending skirts along its transverse edges.
- 5 9. The mask of Claim 1, made of transparent material.
10. The mask of Claim 1 of an opaque material, serving as teaching aid for touch-typing.
11. The mask of Claim 10, provided with guide rails serving to direct the fingers to the correct key or keys.
12. The mask of Claim 1, comprising a portion of opaque and a portion of transparent pockets.
13. The mask of Claim 1, comprising Braille letters in the form of raised dots imprinted on the top surface of said pockets.
14. The mask of Claim 1 made of soft polyvinylchloride-film of 0.28 mm thickness and 84 Shore A hardness.
- 20 15. The method of changing the marks or symbols on the keys of a keyboard substantially as hereinbefore described.
16. The keyboard mask for changing the marks or symbols on the keys of a keyboard substantially as hereinbefore and illustrated in the accompanying drawing.
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